1. In a series circuit containing two lamps, the battery supplies a potential difference of 1.5 volts. If the current in the circuit is 0.10 ampere, at what rate does the circuit use energy?

   1) 0.015 W

   2) 0.15 W

   3) 1.5 W

   4) 15 W

2. A microwave oven operating at 120 volts is used to heat a hot dog. If the oven draws 12.5 amperes of current for 45 seconds, what is the power dissipated by the oven?

   1) 33 W

   2) 1.5×10^3 W

   3) 5.4×10^3 W

   4) 6.8×10^4 W

3. An electric motor draws 150 amperes of current while operating at 240 volts. What is the power rating of this motor?

   1) 1.6 W

   2) 3.8×10^2 W

   3) 3.6×10^4 W

   4) 5.4×10^6 W

4. An air conditioner is designed to operate at 110 volts and is rated at 2,400 watts. Is it possible to use the air conditioner in a circuit which has a 15-ampere circuit breaker (or fuse) on a 110-volt line?

   1) Yes, because the current needed is less than 15 amperes.

   2) No, because the voltage required is too high.

   3) Yes, because the voltage is lower than that needed.

   4) No, because the current needed is greater than 15 amperes.

5. A 120-volt toaster is rated at 600 watts. Under normal conditions, the current in the toaster is

   1) 0.20 A

   2) 5.0 A

   3) 10. A

   4) 25 A

6. Which combination of current and electromotive force would use energy at the greatest rate?

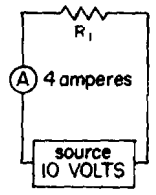
   1) 10 A at 110 V

   2) 8 A at 110 V

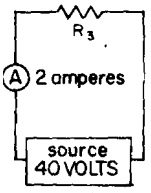
   3) 3 A at 220 V

   4) 5 A at 110 V

7. In which of the circuits represented below will the resistor consume the most electrical power?



1)



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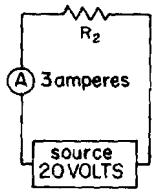
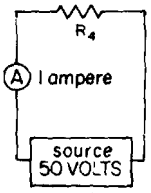


2)



4)

Answer Key

1. 2
2. 2
3. 3
4. 4
5. 2
6. 1
7. 3